



Fault diagnosis of industrial systems with bayesian networks and mutual information

Submitted by Sylvain Verron on Mon, 06/13/2016 - 13:02

Titre	Fault diagnosis of industrial systems with bayesian networks and mutual information
Type de publication	Communication
Type	Communication avec actes dans un congrès
Année	2007
Langue	Anglais
Date du colloque	2-5/07/2007
Titre du colloque	European Control Conference (ECC'07)
Pagination	2304-2311
Auteur	Verron, Sylvain [1], Tiplica, Téodor [2], Kobi, Abdessamad [3]
Pays	Grèce
Ville	Kos
ISBN	978-3-9524173-8-6
Mots-clés	Bayes methods [4], Bayesian networks [5], belief networks [6], correlation [7], Databases [8], fault diagnosis [9], industrial process [10], Monitoring [11], Mutual information [12], process control [13], process monitoring [14], production engineering computing [15], Tennessee Eastman Process [16]
Résumé en anglais	The purpose of this article is to present two new methods for industrial process diagnosis. These two methods are based on the use of a bayesian network. An identification of important variables is made by computing the mutual information between each variable of the system and the class variable. The performances of the two methods are evaluated on the data of a benchmark example: the Tennessee Eastman Process. Three kinds of fault are taken into account on this complex process. The challenging objective is to obtain the minimal recognition error rate for these three faults. Results are given and compared on the same data with those of other published methods.
URL de la notice	http://okina.univ-angers.fr/publications/ua14724 [17]
Lien vers le document en ligne	https://hal.archives-ouvertes.fr/inria-00517021/document [18]

Liens

- [1] <http://okina.univ-angers.fr/sylvain.verron/publications>
- [2] <http://okina.univ-angers.fr/teodor.tiplica/publications>
- [3] <http://okina.univ-angers.fr/a.kobi/publications>
- [4] [http://okina.univ-angers.fr/publications?f\[keyword\]=6207](http://okina.univ-angers.fr/publications?f[keyword]=6207)

- [5] [http://okina.univ-angers.fr/publications?f\[keyword\]=15206](http://okina.univ-angers.fr/publications?f[keyword]=15206)
- [6] [http://okina.univ-angers.fr/publications?f\[keyword\]=15204](http://okina.univ-angers.fr/publications?f[keyword]=15204)
- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=952](http://okina.univ-angers.fr/publications?f[keyword]=952)
- [8] [http://okina.univ-angers.fr/publications?f\[keyword\]=9008](http://okina.univ-angers.fr/publications?f[keyword]=9008)
- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=6672](http://okina.univ-angers.fr/publications?f[keyword]=6672)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=21107](http://okina.univ-angers.fr/publications?f[keyword]=21107)
- [11] [http://okina.univ-angers.fr/publications?f\[keyword\]=4227](http://okina.univ-angers.fr/publications?f[keyword]=4227)
- [12] [http://okina.univ-angers.fr/publications?f\[keyword\]=20808](http://okina.univ-angers.fr/publications?f[keyword]=20808)
- [13] [http://okina.univ-angers.fr/publications?f\[keyword\]=6678](http://okina.univ-angers.fr/publications?f[keyword]=6678)
- [14] [http://okina.univ-angers.fr/publications?f\[keyword\]=6679](http://okina.univ-angers.fr/publications?f[keyword]=6679)
- [15] [http://okina.univ-angers.fr/publications?f\[keyword\]=21106](http://okina.univ-angers.fr/publications?f[keyword]=21106)
- [16] [http://okina.univ-angers.fr/publications?f\[keyword\]=6680](http://okina.univ-angers.fr/publications?f[keyword]=6680)
- [17] <http://okina.univ-angers.fr/publications/ua14724>
- [18] <https://hal.archives-ouvertes.fr/inria-00517021/document>

Publié sur *Okina* (<http://okina.univ-angers.fr>)